MATERIAL SAFETY DATA SHEET

Technical Barrier Systems
151 Randall Street
Oakville, Ontario, Canada, L6J 1P5
(905) 842-9488

SECTION 01 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier (WHMIS Classification)	EBBE CRETE TG Hardener
Product Use	Flooring for food plants
Manufacturer's Name	Technical Barrier System Inc.
Street Address	151 Randall Street
City	Oakville
Province	ON
Postal Code	L6J 1P5
Emergency Telephone	888-537-2888
Date MSDS Prepared	8-Sep-11
MSDS Prepared by	Keith Seaman
Phone Number	888-537-2888
Supplier's Name	Technical Barrier System Inc.
Street Address	151 Randall Street
City	Oakville
Province	ON
Postal Code	L6J 1P5
Emergency Telephone	888-537-2888

SECTION 02 : COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS, %,	**C.A.S.#,LD/50,ROUTE,SPECIES,LC/50,ROUTE,SPECIES**
Polymeric Diphenylemthane Diisocyanate 80-100	9016-87-9

SECTION 03 : HAZARDS IDENTIFICATION

Route of Entry	
Skin Contact	Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.
Skin Absorption	
Eye Contact	Liquid, aerosols, or vapors are irritating and can cause tearing, reddening, and swelling. If left untreated, corneal damage can occur and injury is slow to heal. However, damage is usually reversible.
Inhalation	MDI vapors or mist at concentrations above the TLV can irritate the mucus membranes in the respiratory tract causing runny nose, sore throat, coughing, chest discomfort, shortness of breath, and reduced lung function. Persons with preexisting, non specific bronchial hyperreactivity can respond to concentrations belos the TLV with similar symptoms as well as asthma attack. Exposure well above TLV may lead to bronchitis, bronchial spasm, and pulmonary edma. These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symtoms has also been reported. These symptoms can be delayed up to several hours after exposure.
Ingestion	Can result in irritation and corrosive action in the mouth, stomach tissue, and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrea.
Emergency Overview	
WHMIS Symbols	

Potential Health Effects	Inhalation (cronic): As a result of previous repeated overexposuresor a large single dose, certain individuals develop isocyanate sensitization which will cause them to react to a later exposure to isocyanate at levels below TLV. These symptoms which can include chest tightness, wheezing, cough, shortness of breath, or asthma attack, could be immediate or delayed. Similar to many nonspecific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increased lung sensitivity can persist for weeks and in severe cases several years. This increased lung sensitivity can persist for weeks and in severe cases several years. SKIN (CHRONIC): Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and in some cases, skin sensitization. People who have skin sensitization can develop these symptoms from contact with liquid vapors.

SECTION 04 : FIRST AID MEASURES

Skin Contact	Remove contaminated clothes. Wash affected skin throughly with soap and water. Wash contaminated clothing throughly before reuse. For severe exposures, get under a safety shower after removing clothing, then get medical attention. For lesser exposures, seek medical attention if irritation developes or persists after the area is washed.
Eye Contact	Flush eyes with copious amounts of lukewarm water for at least 15 minutes holding eyelids open all the time. Get medical attention.
Inhalation	Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Consult a physician should this occur.
Ingestion	Do not induce vomiting. Give 1 to 2 cups of milk or water to drink. Do not give anything by mouth to an unconscious person. Get medical attention.

SECTION 05 : FIRE FIGHTING MEASURES

Flammable: Yes / No

If yes under which conditions?

Means of Extinction	Dry chemical, CO2, foam, water spray for large fires. Full emergency equipment with self contained breathing apparatus and full protective clothing should be worn by firefighters.
Flashpoint (°C) and Method	398 F Method: Pensky-Martens closed cup

Upper Flammable Limit (% by volume)	not determined
Lower Flammable Limit (% by volume)	not determined
Autoignition Temperature (°C)	
Explosion Data - Sensitivity to Impact	
Explosion Data - Sensitivity to Static Discharge	
Hazardous Combustion Products	During a fire, MDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. At temperatures greater than 400 F, polymeric MDI can polymerize and decompose which can cause pressure build up in closed containers. Use cold water to cool fire exposed containers.

SECTION 06 : ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures	Evacuate and ventilate spill area; dike spill to prevent entry into watersystem; wear full protective equipment including repiratory equipment during cleanup. If temporary control of isocyanate vapors is required, a blanket of protein foam (available at most fire departments) may be placed over the spill. Absorb isocyanates with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well ventilated area (outside) and treat with neutralizing solution: mixture of 80% water, 20% non-ionic surfactant Tergitol TMN-10, or 3-8% concentrated ammonia, and 2% detergent. Add about 10 parts neutralizer per part of isocyanate with mixing. Allow to stand 48 hours to let CO2 escape. Decontaminate floor with decontamination solution letting stand for at least 15 minutes.

SECTION 07 : HANDLING AND STORAGE

Handling Procedures and Equipment	Avoid contact with skin and eyes. Do not breath aersols or vapors. Warning properties are not adequate to prevent chronic overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated exposures to lower concentrations. Exposure to vapors of heated MDI can be extremely dangerous.
Storage Requirements	Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.

SECTION 08 : EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits: ACGIH TLV; OSHA PEL; Other	
Specific Engineering Controls (such as ventilation, enclosed process)	Local exhaust should be used to maintain levels below the TLV whenever MDI is processed, heated, or spray applied. Standard reference sources regarding industrial ventilation should be consulted for guidance about adequate ventilation.
Personal Protective Equipment	RESPIRATORY: Copncentrations greater than the TLV can occur when MDI is sprayed, heated, or used in a poorly ventilated area. In such cases, or whenever concentrations of MDI exceed the TLV or are not known, repiratory protection must be worn. A supplied air repirator is required. In an emergency situation, a self contained breathing apparatus may be used. MDI has poor warning properties, since the concentration at which MDI can be smelled is substantially higher than the maximum limit. EYE PROTECTION: Wear slpash-proof chemical goggles. Vapor resistant goggles should be worn when contact lenses are in use. In a splaash hazard enviroment, chemical goggles should be used in combination with a full face shield. PROTECTIVE CLOTHING: Cover as much of exposed skin area as possible with appropriate clothing. Wear impervious gloves. Safety showers and eyewash stations should be available.

SECTION 09 : PHYSICAL AND CHEMICAL PROPERTIES

Physical State	
Odour and Appearance	amber, brown liquid with slightly musty odor
Odour Threshold (ppm)	
Specific Gravity	
Vapour Density (air=1)	8.5 (MDI)
Vapour Pressure (mmHg)	Less than 10-5 mmHg @ 77 F
Evaporation Rate	
Boiling Point (°C)	406 F
Freezing Point (°C)	
pH	

Coefficient of Water / Oil Distribution	

SECTION 10 : STABILITY AND REACTIVITY

Chemical Stability Yes/No	Normally stable
If no, under what conditions?	
Compatibility with Other Substances Yes/No	
If yes, which ones?	
Reactivity, and under what conditions?	Avoid contact with water, amines, strong bases, and alcohols. Will cause some corrosion to copper alloys and aluminum.
Hazardous Decomposition Products	By high heat and fire: carbon monoxide, oxides of nitrogen, traces of HCN, MDI vapors or aerosols.

SECTION 11 : TOXICOLOGICAL INFORMATION

Effects of Acute Exposure	
Effects of Cronic Exposure	Asthma, other respiratory disorders (bronchitis, ephysema, bronchial hyperreactivity), skin allergies, eczemz.
Irritancy of Product	
Skin Sensitization	
Respiratory Sensitization	
Carcinogenicity - IARC	No
Carcinogenicity - ACGIH	No
Reproductive Toxicity	
Teratogenicity	
Embryotoxicity	
Mutagenicity	
Name of Synergistic Products / Effects	

SECTION 12 : ECOLOGICAL INFORMATION

Aquatic Toxicity

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal	Waste must be disposed of in accordance with federal, state, and local environmental control regulations. Incineration is the preferred method.

SECTION 14 : TRANSPORT INFORMATION

Special Shipping Instructions	
PIN	
TDG	n.o.s. (Methylene diphenyl Diisocyanate) Class 9 UN 3082 PG III
ICAO	

SECTION 15 : REGULATORY INFORMATION

WHMIS Classification	
OSHA	
SERA	
TSCA	All chemicals in this product are not subject to TSCA.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by CPR.

SECTION 16 : OTHER INFORMATION

DSL	All substances listed on the Canadian Domestic Substance List are not required to be listed.